

201-1591.5

NCIC OPPT/DC/USEPA/US

Sent by: JuanB Perez

05/25/2005 10:57 AM

To NCIC HPV@EPA

cc

bcc

Subject RE: HPV - Reclaimed Substances  
Acids/Caustics Technical ltr

US Environmental Protection Agency  
Office of Pollution Prevention and Toxics Docket  
Non-Confidential Information Center (MC 7407T)  
(operated by ASRC Aerospace Corporation)  
1301 Constitution Ave NW Room B146 EPA West  
Washington DC 20460  
phone 202-566-0280 \* fax 202-566-0282 \* e-mail oppt.ncic@epa.gov  
Lorraine Twerdok <Twerdokl@api.org>

RECEIVED  
OPPT CBIC  
05 MAY 26 AM 10:44



Lorraine Twerdok  
<Twerdokl@api.org>

05/24/2005 11:44 AM

To Lorraine Twerdok <Twerdokl@api.org>, Rtk Chem@EPA,  
NCIC OPPT@EPA  
Oscar Hernandez/DC/USEPA/US@EPA, Charles  
Auer/DC/USEPA/US@EPA, Ralph  
Northrop/DC/USEPA/US@EPA, "HPV OC listserve (E-mail)"  
cc <HPV-OC@listserve.api.org>, "HPV Tech listserve (E-mail)"  
<hvp-techwg@listserve.api.org>, Mark  
Townsend/DC/USEPA/US@EPA  
Subject RE: HPV - Reclaimed Substances  
Acids/Caustics Technical ltr

please find attachment below that was inadvertently left off previous message

-----Original Message-----

**From:** Lorraine Twerdok

**Sent:** Tuesday, May 24, 2005 11:36 AM

**To:** chem.rtk@epa.gov; oppt.ncic@epa.gov

**Cc:** hernandez.oscar@epa.gov; Auer.Charles@epa.gov; northrop.ralph@epa.gov; HPV OC listserve (E-mail); HPV Tech listserve (E-mail); Mark Townsend (E-mail)

**Subject:** HPV Reclaimed Substances Acids/Caustics Technical ltr

On behalf of the API Petroleum HPV Testing Group, please find attached the Reclaimed Substances Acids/Caustics Technical Communication & response to EPA comments.

Also, please note that EPA has incorrectly classified two of the substances in this category as desponsored on the HPV website and in the *HPV Status Report*. The substances incorrectly identified as desponsored are:

64742-24-1 Sludges (petroleum), acid (sponsored 15 Mar 99)

68988-99-8 Phenols, sodium salts, mixed with sulphur compounds; gasoline alky scrubber residues (sponsored 29 Nov 99)

Both of these substances remain sponsored in this category.

Please feel free to contact me with comments or questions on this information.

Regards,

Lorraine

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2005 5-24 RS acids-caustics tech ltr.pdf

# Petroleum HPV

201-15915

May 24, 2005

Administrator  
U.S. Environmental Protection Agency  
P.O. Box 1473  
Merrifield, VA 22116  
Attention: Chemical Right-to-Know Program

**HPV Challenge Program, AR-201  
HPV Consortium**

**Re: Acids/Caustics Category in Reclaimed Substances Test Plan  
Technical Letter and CASRNs Incorrectly Classified by EPA as Desponsored**

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05 MAY 26 AM 10:44

Dear Administrator:

The Petroleum HPV Testing Group is a consortium representing 92 percent of the nation's petroleum refining capacity. The Group is made up of 60 member companies of the American Petroleum Institute (API), the National Petrochemical & Refiners Association (NPRA), the Gas Producers Association (GPA) and the Asphalt Institute. In its test plan for Reclaimed Substances, which was posted to the Agency's ChemRTK website on January 2004, the Testing Group addressed four separate categories of chemical substances: naphthenic acids, phenolics, disulfides, and acids/caustics which caused considerable confusion. The purpose of this letter is (1) to address the acids/caustics category members in a separate technical letter, and (2) inform EPA that the API Petroleum HPV Testing Group has **NOT withdrawn sponsorship** of these CASRNs..

This category of substances contains materials that are either highly acidic or highly alkaline. They are all byproducts of petroleum processing and are not sold as consumer products. They do not meet the typical chemical structure criteria for assigning substances to categories, but have been grouped together because they share the common property of extreme pH. In its comments on the original Reclaimed Substance test plan the Agency indicated that the category definition is adequate and that the "grouping of these substances is supported by their status as wastes, their extreme pH values and their corrosive potential". The category contains the following substances:

**CASRN 68815-21-4**

Tar acids, cresylic, sodium salts, caustic solutions.

This material is a spent caustic solution obtained from the neutralization of acidic petroleum distillate streams. Its composition is predominantly sodium salts of cresylic and phenolic acids, sodium hydroxide and water. This material is either sent to a chemical processor for recovery of organic acids or disposed of as a waste. It is highly alkaline and corrosive.

**CASRN 064742-24-1**

Sludges (petroleum), acid

"A complex combination of sulfuric and sulfonic acids, water, esters and high molecular weight organic compounds such as polymers of olefinic hydrocarbons. It is formed during the treating of petroleum fractions with sulfuric acid."

Sulfuric acid used as a catalyst in alkylation is recycled for reuse, and a portion is removed periodically to reduce the buildup of impurities. The spent acid stream is used only for pH control at the refinery's wastewater plant and none is shipped off-site. The sulfuric acid concentration of this material is between 90-93%.

**CASRN 064742-40-1**

Neutralizing agents (petroleum), spent sodium hydroxide

"A complex combination consisting predominantly of water and containing sodium hydroxide and organic and inorganic sodium salts. It is obtained by neutralization of an acidic petroleum stream."

This is a spent caustic resulting from the treatment of hydrocarbon streams for mercaptan removal. Some of the caustics come from the caustic treating units while others come from regeneration units where they are initially oxidized to remove the extracted sulfur compounds as disulfides. These regeneration units return most of the caustic to the treating unit, but a portion is periodically removed to keep the sulfides from concentrating to the point where the regenerated caustic is no longer useful. The typical concentration of the spent caustic is approximately 4 % sodium sulfide, 5 % sodium hydroxide, 1% sodium mercaptides, and 90% water. The pH ranges between 13 and 14.

**CASRN 68988-99-8**

Phenols, sodium salts, mixed with sulphur comp; gasoline alky scrubber residues

"A complex combination of phenolic compounds and sulfur compounds obtained from the treatment of gasoline with aqueous alkali at the catalytic cracking unit. It consists primarily of sodium salts of phenols, water neutral oils and sulfur compounds."

This material was included in the "phenolics" category of the original Reclaimed Substances test plan, but has since been moved to the Acids and Caustics category. It is the spent caustic solution formed when certain gasoline blending streams are caustic treated to remove impurities. This stream typically contains 10-15% sodium cresylates, 1% sodium mercaptide, 7.5% sodium hydroxide and 77-82% water, with a pH of 13.

**Summary** – All of these materials are highly alkaline or acidic by-products of various petroleum refining processes. In the Reclaimed Substances test plan, the Testing Group concluded that none of the materials in this subcategory should be evaluated in the HPV program because of their extreme pH values. EPA indicated in its September 2, 2004 comments that it "believes that testing the members of this category is unnecessary as their toxicological effects will reflect their extreme pH values and corrosivity". The Agency also agreed that testing on aquatic organisms was not appropriate.

The Testing Group recently learned that EPA had withdrawn our sponsorship of these materials based on the information in the Reclaimed Substances test plan. We have **not withdrawn sponsorship** of these substances. If you have further questions about these substances, please do not hesitate to call me at (202) 682-8344.

Sincerely,

Lorraine Twerdok  
Program Manager  
Petroleum HPV Testing Group

Cc: O. Hernandez, EPA  
Petroleum HPV Testing Group Oversight Committee  
Petroleum HPV Testing Group Technical Committee